DOCUMENT RESUME

ED 309 106 SO 020 013

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TITLE Teaching Major Economic Concepts in the High School Business Curriculum.
INSTITUTION New York State Council on Economic Education, Albany.; State Univ. of New York, Old Westbury, N.Y. Empire State Coll. Center for Business and Economic Education.
PUB DATE 88
NOTE 23p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Basic Business Education; *Business; Class Activities; *Economics; *Economics Education; High Schools; Secondary Education; Teaching Methods
IDENTIFIERS Economic Awareness; *Economic Concepts; New York

ABSTRACT

Several important economic concepts appear in the business curriculum designed for secondary schools in New York State. This manual assists the teacher by providing brief and simple definitions of major economic concepts, noting the implications of those concepts for business, and suggesting strategies that can be used to teach the principles and topics to secondary school students. An effort has been made to include a variety of methods and ideas, ranging from very simple descriptive exercises that can be completed by the average student in a few minutes to more challenging analytical problems that might require several days or even weeks to complete. The concepts addressed are: scarcity, opportunity cost and trade-offs, productivity, the market system, supply and demand, competition and market structure, income distribution, profit, capital formation, the role of government, and economic tools. (GEA)

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BUSINESS EDUCATION

TEACHING MAJOR ECONOMIC CONCEPTS

in

THE HIGH SCHOOL BUSINESS CURRICULUM

George Dawson

1988

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TEACHING MAJOR ECONOMIC CONCEPTS
IN
THE HIGH SCHOOL BUSINESS CURRICULUM

George Dawson

Center for Business & Economic Education
Empire State College on Long Island
with the assistance of
The New York State Council on Economic Education
1988

INTRODUCTION

Several important economic concepts appear in the business curriculum designed for secondary schools in New York State. For examples, see the outlines for "Economics and the Small Business" and "Business Ownership and Marketing." This manual should assist the teacher by providing brief and simple definitions of major economic concepts, noting the implications of those concepts for business, and suggesting strategies that can be used to teach the principles and topics to secondary school students.

It is unlikely that any teacher will be able to use all of the strategies suggested here. The teacher can select those that are most suitable for his or her class. It should be noted that these suggested activities and assignments by no means exhaust the possibilities. An effort has been made to include a variety of methods and ideas, ranging from very simple descriptive exercises that can be completed by the average student in a few minutes to more challenging analytical problems that might require several days or even weeks.

For additional ideas for teaching economics, the teacher should use the publications of the Joint Council on Economic Education (432 Park Avenue South, New York, N.Y. 10016), such as Basic Business and Consumer Education by James Niss, Judith Brenneke, and John Clow. (Write for their latest catalog, or call 212-685-5499.) One of the Joint Council's most recent publications is Economics U$A: A Resource Guide for Teachers by Sanford Gordon. This was designed for use with the film series Economics U$A, but even if the films are not used in the classroom the manual's suggested strategies could be employed effectively.

Suggestions or comments relating to this manual should be sent to Dr. George Dawson, 2292 Arby Court, Bellmore, N.Y. 11710-4202.

Concept #1: Scarcity

Scarcity is the basic problem of economics -- the fact that there are too few resources to produce everything that people want.

Implications for Business:

Businesses help to cope with the scarcity problem by increasing the production of goods and services. They face the problem themselves when they buy raw materials, capital equipment, land, etc., and when they hire workers.

Strategies:

1. Ask students to make a list of everything they would like to have right now. Then ask them to check those that they could have right now, given their current resources. (Current resources might include the student's savings, money that could be earned, items that could be traded, etc.) The problem of scarcity should become evident on a personal level.

2. Now apply the problem to the school. Have the class discuss and list the things that they would like to have in the school, such as a swimming pool, a better gymnasium, an improved cafeteria, a bigger library. Identify the resources available to meet some of these wants, and discuss reasons why it is probably impossible to satisfy all of the wants.

3. Go a step farther and apply the problem to the community, town, county, and state. Again, it will be found that at all levels human wants and needs are usually greater than the available productive resources. Tell the class that productive resources (also known as inputs or factors of production) can be categorized as: (a) natural resources; (b) human resources, or labor; (c) capital, or human-made goods that are used to produce other goods and services; and (d) entrepreneurship.

4. Note that scarcity is a world-wide problem, usually more serious in most other countries. The highly publicized famine in Ethiopia or the human misery in some of the impoverished nations can be used to illustrate the problem. Students might discuss the meaning of the popular song "We Are the World" or the rock song "Bangladesh."

5. Have the students bring in clippings from recent newspapers or news magazines that deal with the problem of scarcity. (Examples: "Housing Shortage Causes Rent Increase." "Rise in Crime is Attributed to Police Shortage." "Wage Rates Rise in Fast-food Restaurants Because of Scarcity of Teen-age Workers.") Ask the students for a brief oral summary of their articles, and an explanation of how they illustrate the problem of scarcity.

6. Explain that economics is a science that deals with the problem of scarcity in a systematic way, and that some economic concepts will be included in the course where those concepts help us to understand particular business or consumer problems.

Concept #2: Opportunity Cost and Trade-offs

When we can't have everything we want, we must make choices. If you want both Item X and Item Y, but lack the resources to have both, you must choose. If you choose X, then the real cost is the sacrifice of the opportunity to have Y. The opportunity cost, then, is the next-best alternative that you forego. A trade-off occurs when you decide to give up one thing to have something else. If you give up some of your Xs to have a few Ys, you have traded off Xs for Ys.

Implications for Business:

Business owners and managers must contantly make decisions involving opportunity costs and trade-offs. Examples are:

- Shall I use the profits to take a vacation or shall I use them to buy new tools and equipment?
- Shall I use more workers and fewer machines; or more machines and fewer workers?
- The only way I can increase my production of cakes is to bake less bread -- what shall I do?
- I can invest my money in a venture that is risky but could yield a high return; or I can buy bonds that are very safe but have low interest rates -- where should I put my money?
- I think I can expand the market for my products by trying to sell in foreign countries, but to do so will mean that I will operate at a loss until I am well-established abroad -- shall I sacrifice current income in the hope of future gains?

Strategies:

1. Ask the students to identify situations in which they have been forced to choose from among alternatives. Examples: (A) You have $100 saved, and you want a new bike and a new portable radio -- both priced at $100. (B) Your friend invites you to a party that is being held at the same time your favorite team is playing an important game. (C) A local company offers you a good job as soon as you graduate from high school, and a college in another city offers you a scholarship. What are the opportunity costs in each case? Which did you choose?

2. The examples given in #1 above are largely "either-or" cases -- the student must choose all of one or all of the other. Now try a similar exercise where partial trade-offs are possible. Ask the students to describe situations in which they have given up part of their supply of one thing to get more of something else. For example: "You have four hours of free time. You can play ball, go swimming, watch TV, etc. What are you trading off if you decide to swim for two hours instead of one?"

3. Using recent newspapers or news magazines, have the students identify situations outside their own experience where opportunity costs and trade-offs were involved. Examples are: (A) The town owns a large piece of vacant land. Local businesses want it to be developed as a parking lot, but a group of parents wants it to be a playground. (B) A firm wants to erect new office buildings in an area, and it has the support of unions whose workers are unemployed. Environmentalists oppose the project, saying that it will destroy trees, create air pollution, etc. (C) At the national level, the President says there is a need to increase our military

defense forces, but to do this we shall have to reduce spending for youth programs, education, public health, etc.

4. Teach the students to use the decision-making grid below to identify opportunity costs and trade-offs.

DECISION-MAKING GRID

ALTERNATIVES	CRITERIA						

The grid can be used to analyze many kinds of situations, from personal choice-making problems to national or international issues. Many examples appear in publications of the Joint Council's Master Curriculum Guide series, such as Basic Business and Consumer Education (page 15). To illustrate, assume that Joan is graduating from high school and has three career choices. These would be listed in the "Alternatives" column -- (1) accept job as clerk in local store; (2) go to college to study accounting; (3) open a small business. In the "Criteria" boxes at the top, Joan would put the factors that are important to her in making the decision (thus the grid can be highly individualized). She might include: (A) effect on her savings; (B) future income; (C) effect on leisure time; (D) prestige; (E) having responsibility; (F) enjoying the work; etc. Then she rates each criterion by using symbols like the following:

++ very positive effect on the criterion
\+ positive effect on the criterion
\- negative effect on the criterion
-- very negative effect on the criterion
o no effect
? effect is uncertain

In this case, the clerical job would probably get a plus sign for effect on her savings, a negative for effect on future income (it is a "dead-end" job), a plus

for effect on leisure time (no home-work!), a minus for prestige, a minus for having responsibility (this assumes that Joan wants responsibility), and a question mark for enjoying the work. Going to college would be a negative for effect on savings, a plus for future income, a negative for effect on leisure time, a plus for prestige, and plus for responsibility (an accountant has a very responsible job), and a plus for enjoyment if we assume that Joan knows she will enjoy being an accountant. Opening her own business might be a negative (or a double-negative) for effect on savings, a question-mark for future income (the business might fail), a double-negative for effect on leisure time, a plus for prestige, a double-plus for responsibility, and a plus for enjoying the work. The results may not answer Joan's question about what she should do, but they will show her the trade-offs involved and help her to see the consequences of choosing one option as opposed to the others.

Complete the grid with the class, having a discussion of each step, and asking the students to identify the opportunity costs and trade-offs involved in each choice. (Because people have different values and goals, students may differ on some of the criteria and the ratings. This is acceptable, and students can be given blank forms to fill out their own grids for problems that apply to themselves.)

Ask students to think of other ways of using the grid. (Examples: "Shall I buy a new car, a used car, a motorcycle, or a bike?" "What shall I do with my spare time -- study, take a part-time job, or join a school athletic team or social club?" "What should be done with the vacant lot downtown -- develop a public park or playground, use it as a parking lot, sell it to developers for private offices or housing?")

Concept #3: Productivity

Productivity is the amount of goods or services turned out by a factor of production such as labor during a given period of time. An increase in productivity occurs when more is produced in the same time with the same resources, or when the same amount is produced in less time or with fewer resources. For example, if 10 yards of cloth were produced per hour of labor last year, but 11 are being produced per hour this year, then productivity has increased by 10 percent. A rise in productivity can mean more goods and services (i.e., greater production), lower costs of production, higher quality, bigger profits, lower prices, higher wages, and perhaps a higher level of living.

Implications for Business:

Every business wants to improve productivity -- to reduce costs, to increase profits, to become more efficient than its competitors. Among the things that a firm might do are:

- Increase worker specialization (set up assembly lines, for example).
- Adopt new technology (use computers, for instance).
- Put some of the profits into capital formation (buy new equipment, tools, machines, plants).
- Hire workers who are intelligent, well-trained, highly motivated.

- Experiment to find the best mix of workers and machines.
- Conduct research to find better ways of doing things and to improve quality.
- Create an atmosphere of good relations with employees (treat them with respect; ask for their opinions; reward outstanding work).
- Invest in human capital, such as training and education for both the managerial staff and the rank-and-file employees.

Strategies:

1. Ask the students to describe goods or services that they have produced. Then ask them if they found ways of increasing the quantity of improving the quality. For example, a student might have increased the output of cookies by having family members perform specialized tasks -- one child mixes, another rolls the dough, a third cuts the dough into the proper shapes. (This increases productivity through specialization and division of labor.) A student could increase the number of lawns mowed by buying or renting a power mower instead of using a hand mower. (This increases productivity using a more efficient capital item.)

2. Set up an experiment whereby the class will make a simple item -- small note pads. Ask four students to come to the front and sit around a small table. Provide them with supplies of plain white paper ($8\frac{1}{2}$" x 11"), paper clips, and marking pens. Explain the steps for making note pads:

(1) Fold a sheet of paper in half; then fold it again, making sharp creases.
(2) Tear the paper along the creases, making 4 small sheets.
(3) Assemble the 4 sheets and attach them by putting a paper clip in one corner.
(4) Write the word "Notes" at the top of one of the outer sheets.

Let them practice by making one note pad; then give a limited time (2 or 3 minutes) to make pads to work individually. At the end of the alloted time stop them and count the output. (You can reject any pad that is badly made.) Now instruct them to specialize. One will do all the folding;another will do all the tearing; a third will assemble and attach the sheets; and the fourth will write "Notes" at the top of each pad. Give them the same amount of time as before. It is probable that they will now produce more pads, thus showing that specialization can increase productivity. Now provide the second student with scissors, and the third with a stapler. Point out that you are adding capital equipment. Again give them the same amount of time, and compare the output with the previous sessions. Both quantity and quality should improve. Conduct a class discussion, asking the students to explain the outcomes and to try to derive generalizations or principles from the experiment.

3. Ask the students to select an industry that they are interested in and to try to think of ways by which the industry might improve productivity. For example, could a fast-food restaurant serve more hamburgers by having the employees specialize more narrowly? Is there any additional equipment or machinery that might improve their operations? Who will benefit from the improvements? How will increased productivity help the consumer, the workers, and the owners?

Concept #4: The Market System

In a market system the basic economic questions are answered by the interplay of buyers and sellers with little or no interference by government. What shall we produce? How shall we produce it? For whom and how will the output be distributed? In a market economy the consumers decide what is to be produced by "voting with their dollars." Seeking the greatest profit for the lowest cost, businesses will decide how to produce the things consumers want. The output will be distributed on the basis of who wants it and has the ability to pay for it. In a command economy these questions are answered by a central authority.

Implications for Business:

Most business people prefer the freedom of the market to the rigid controls of a command economy. They are free to enter almost any field they want, but success is not guaranteed. They must be alert to the wishes of the consumer, and they must be aware of the actions of their competitors. Entrepreneurs can improve their chances for success by learning how the market economy works, and by acquiring knowledge and skills in such areas as management, accounting, marketing, research, labor relations, and business law.

Strategies:

1. Ask the students to visit various retail stores, such as music shops, book stores, and clothing stores. Have them note the amount of space devoted to different products. For example, a music shop will probably have more racks of rock-and-roll records and tapes than racks for classical music, country & western songs, show tunes, and folk music. How much space is devoted to each type? How did the shop manager decide on the space to allocate to each type? How does this illustrate some basic principles of the market system?

2. Invite students who have produced goods to sell or who have performed services (such as baby-sitting) to tell why they chose those activities. How were they influenced by the market? What was the result? (Failures can be as useful as successes in this exercise to show how the market guides production. You might even discuss: "How can entrepreneurs learn from their failures?")

3. Students who have produced products can be asked to explain how and why they selected their production methods. Why did they choose one method over another? Did they ever change their production techniques? If so, how and why? What were the market forces that led to these decisions?

Concept #5: Supply & Demand

To understand the market system, one must understand supply and demand. Supply refers to the quantity that sellers will put on the market at various prices at a particular time. Generally, they will put more goods or services on the market at higher prices than at lower prices. Demand refers to the quantity that buyers will purchase at various prices at a particular time. Generally, as prices rise, the buyers will purchase fewer goods and services. As prices fall, buyers will tend to purchase more.

Implications for Business:

Every manager and owner should have a good understanding of how supply and demand affect the company. They should try to learn what factors influence the demand for their goods or services. They should know about the elasticity of demand. If the percentage change in sales is greater than the percentage change in price, demand is elastic. Demand tends to be elastic for luxury items, durable (long-lasting) goods, and things that are very expensive. A small increase in price could result in a large drop in sales, causing the firm to lose revenues.

If the percentage change in sales is less than the percentage change in price, demand is inelastic. Demand tends to be inelastic for necessities (food, home heating fuel, medicine, health care) and for very inexpensive items (paper clips; tooth picks). If the seller raises the price by 20 percent, sales will fall by less than 20 percent -- thus the seller's revenues will increase. On the other hand, a drop in price will not greatly increase sales. A 50 percent decline in the price of salt will not cause consumers to increase their purchases by 50 percent. Thus, the salt merchants will lose money by dropping the price.

Supply can also be elastic or inelastic. If a slight rise in price is followed by a large increase in the quantity offered for sale, then supply is elastic. If a large increase in price is followed by a small increase in the quantity offered for sale, supply is inelastic.

Business people can never know exactly what the elasticity of demand or supply will be, but they ought to have a good general idea before making decisions to change their prices.

Strategies:

1. To teach the law of demand tell the class that you are going to auction a portable radio. Give each student a slip of paper. Show a small radio (or any other item they might want to buy) and ask them to write on their slips the highest amount they would pay for it. Do not allow them to talk or show one another their slips. Collect the slips and arrange them in order from highest to lowest bids. (To simplify the computations, insist that they use increments of 5 -- $5, $10, $15, etc.) Put a demand schedule on the chalkboard. The first column should show the prices from highest to lowest ($5). The second column should show how many radios you would sell if you charged each price. (Be sure to add the number of students who would pay high prices to the numbers who would pay lower prices to get the quantity demanded at each lower price. For example, suppose that the highest price offered was $50, and that 2 students offered this amount. You would put "2" in the second column, showing that at the price of $50 you would sell 2 radios. Then assume that 3 students offered $45. You would add the 2 who would pay $50 to the 3 who'd pay $45 to get the quantity you would sell at the price of $45 -- thus the number "5" would appear in the second column (Quantity Demanded) to the right of $45 in the first column. You might add a third column to show your total revenue -- the price times the number you would sell at that price. Thus, if you charged $45 you would sell 5 radios, and your total revenue would be 5 x $45 or $225. (This column is important to show that the highest price is not always the best price. You might increase your total revenue by selling at a lower price.) In any event, the result will be that more radios will be sold at lower prices than at higher prices, and this will illustrate the law of demand.

2. It is important to know that demand can change. The situation described in Strategy #1 is not a change in demand, however. When you were able to sell more radios at $45 than at $50, there was an increase in the amount you could sell or in the quantity demanded, but not in demand. An increase in demand occurs when more items will be sold at any price. For example, suppose that student incomes rose sharply, enabling them to buy more goods. Now you find that you could sell 4 radios at $50, and 8 radios at $45 -- this is an increase in demand. Ask students to identify factors that might cause them to increase their demand for goods and services, considering such things as an increase in incomes, a change in tastes or habits, a change in the utility that one expects to get from an item, and a change in the price of a good that is either a substitute or complement of the product in question. Then ask what might cause them to decrease their demand. For instance, if the price of small portable TV sets falls, they will want these items instead of radios, so their demand for radios will drop -- fewer radios will be sold at any given price. (In this case, a change in the price of a substitute product -- TV sets as substitutes for radios -- explains the drop in the demand for radios.) Stress the importance of utility in determining demand -- the usefulness (either practical or psychological) that the buyer expects to get from a product or service. The TV sets would provide greater utility and satisfaction than radios.

3. To teach the law of supply have the students pretend that they own the radio (or other item) that you auctioned earlier. Ask how many would be willing to sell the item for $5, for $10, for $15, etc. It should be clear that more radios will appear on the market at the higher prices. Develop a supply schedule with prices listed in the first column and the quantity that would be supplied at each price in the second column.

4. Note that a change in supply means that more (or less) of the item will be offered for sell at each possible price -- that is, the entire schedule as developed in Strategy #3 would change. If your schedule showed that 20 radios would be offered for sale at a price of $30, an increase in supply would be indicated by a new situation in which more than 20 would be offered for sale at $30 -- say, 25 radios. Ask students to explain what would cause supply to increase or decrease. An increase or decrease in production costs should be stressed. Ask students who have produced goods or services to tell what factors would cause them to increase or decrease the prices they charge or the amounts that they would be willing to sell at various prices. (Example: "When the price of sugar dropped, I was able to produce more cookies and sell them at the same price or at a lower price without reducing my profits.")

5. Have the students draw supply and demand curves for the radios (or whatever product you "sold"), using the data in the supply and demand schedules. (If the students are not skilled in drawing graphs, give them copies of graphs that you have started. Show them how to locate coordinate points, etc. Take them through the process step-by-step.) Discuss the significance of the point at which the curves intersect to show how prices are set by supply and demand. Once this is understood, add new supply and demand curves based upon changes in supply and demand, to show how these changes affect the market price and the quantities sold. Ask students to give examples of changes in supply or demand for items that interest them. For example, note that as the number of stores renting video tapes has soared, the rental price of tapes has plunged. (The increase in supply, without a concomitant increase in demand of the same magnitude, forced the market price down.)

6. Use oil as a case study to illustrate how supply and demand work. The students can do research on the oil embargo of the 1970s to see how a cutback in supply caused prices to soar. They should also learn how the higher prices caused producers to find more oil, while inducing consumers to conserve oil. Then they should study the oil price declines of the mid-1980s to see how the increase in supply brought prices back down. Students might be interested in discussing how these changes affected the price of gasoline, how gasoline prices affect their own (or their family's) driving habits and costs, etc.

Concept #6: Competition and Market Structure

Competition (rivalry) occurs in many forms. Firms in a given industry vie for larger shares of the market by offering lower prices, higher quality, or better service -- or some combination of these. To compete effectively in the consumer market, businesses also compete in the factor market -- the market in which they try to hire the best workers, buy the best raw materials, purchase capital equipment, and borrow money. In regard to how they are structured, markets can range from pure monopoly (one seller) to pure competition (so many sellers that no single firm can influence the market price). More common are oligopoly (wherein a few firms dominate the market) and monopolistic competition (a situation in which there are many firms in the industry, but some have the power to affect price through such things as advertising).

Implications for Business:

Anyone entering a business should "know the competition." If an industry is a monopoly, it is virtually impossible for a newcomer to enter the field. It can also be very difficult to enter an oligopoly, although the few large firms that dominate the industry will sometimes tolerate smaller competitors. (To determine whether or not an industry can be called an oligopoly, look at the ratio of concentration, which is the percent of total output or sales accounted for by the four largest firms. Thus, there can be a great many firms in an industry, but three or four large firms may have 50 percent or more of the market.) Pure competition exists when there are so many sellers that no single firm can affect the market price. Also, the product must be standardized so that the goods or services produced by one firm are identical with those of all others. (The wheat grown by farmer Brown is no different from the wheat grown by farmer Jones.) There are no brand names and no advertising. Everyone involved in the market is fully informed about prices, quality, and market conditions. There is no collusion among producers or sellers, and government does not interfere. Prices are set by supply and demand, and the seller must accept whatever price prevails at the time (the sellers are said to be price-takers, not price-makers). Anyone can enter or leave the market, and increase or decrease production, without affecting the market price. Pure competition is very difficult to find, except in the case of some farm products.

Perfect competition exists when there is pure competition in both the sellers' side and buyers' side of the market. This is a rare situation. Indeed, pure competition may prevail among the sellers, but these sellers can face a monopsony (one buyer) or oligopsony (a few buyers) when they market their output. For example, in some regions there are many small farmers with milk cows, but only one large dairy firm that buys their milk. Thus, anyone planning to start a

business should be aware of the competitive situation on both sides of the market.

It is also important to define the market area very carefully. If there is only one drug store in a town, it may seem that the pharmacist has a monopoly. However, if consumers can easily get to drug stores in nearby towns, then no monopoly exists. We must also consider the nature of the product or service. Consumers may not be harmed by a monopolist who controls the sales of luxury items that we can do without, but can be exploited by one who controls such things as essential foods, medicines, and emergency health care. Of course, market structures can change. The high profits enjoyed by a firm with monopoly power will lure other producers into the field, thus ending the monopoly. Today, more than ever before, we must consider many markets to be world-wide. There may be only three automobile producers in the United States, but 25 other countries manufacture automobiles, and many of them export their cars to the U.S.

Most young people who set up their own businesses will probably be in monopolistically competitive markets. These are similar to pure competition, but do not have all of the characteristics of a purely competitive market. There will be many firms producing the goods or services in the industry, but there may be slight differences in the products. The bread from Maria's bakery may be very similar to the bread from Jan's bakery, but even if the only difference is in the wrappers or brand names we cannot say that pure competition exists. Maria may be able to charge more than Jan if people think her bread is better as a result of Maria's advertisements, or if her shop is more attractive. To a certain extent, then, Maria is a "price-maker" whereas in pure competition she would be a "price-taker."

In addition to knowing something about the types of markets discussed above, the entrepreneur needs to know whether or not competitors have advantages in terms of location, access to supplies, availability of skilled labor, favorable utility rates, ability to borrow at low rates of interest, transportation costs, experience in the industry, reputation in the industry or in the community, low insurance premiums, managerial skill, and the like.

Strategies:

1. Hold a discussion on the impact of competition in an industry with which the students are very familiar. For example, note the proliferation of video shops in recent years. As these stores grow in number, how do they compete? (Lowering prices, offering "life-time" memberships, "free" rentals, etc.) What explains the rapid growth of these shops? (Soaring sales of VCRs; high prices charged by movie theaters; latest fad?) What type of market is this? (Probably monopolistic competition.) Why are some of the stores succeeding while others fail? (Failures can be caused by poor management, lack of adequate capital, poor location, competition from larger firms, etc.) If you were planning to establish a video store, what should you know about the competition? How would you prepare to meet the competition?

2. In effect, many students have been in business for themselves -- tending lawns, baby-sitting, washing cars, baking and selling cookies, etc. Ask students to explain their "businesses" to the class and to show how they were affected by competition. What did they do to "meet the competition"?

3. The U.S. auto industry has been facing fierce competition from foreign producers, especially the Japanese. Have students research this situation by reading magazine articles. Why has Japan been so successful in capturing large

shares of the auto market? How has this affected American consumers, workers, and producers? How has the U.S. auto industry responded? What can we learn from this? (Produce high-quality products; provide better service to consumers; do a more effective job of marketing, for example.)

4. Ask students to list the industries in their community, and to try to categorize them. Are they purely competitive, monopolistically competitive, oligopolistic, or monopolistic? What criteria were used in making these determinations? (Be sure that students understand the meaning of industry. An industry is made up of all the firms producing a particular product or service. A single firm is not an industry unless it happens to have a monopoly.)

Concept #7: Income Distribution

There are four factors of production -- land (which includes all natural resources), labor (human resources), capital (human-made goods used to produce other goods and services), and enterprise (the risk-taking people who establish, finance, and guide a business). They all make a contribution to producing the product or service, and thus they are all entitled to a share of the firm's revenues. Sharing in a firm's revenues is called functional distribution of income. The share going to owners of land is called rent. Labor (a category that includes salaried managers as well as rank-and-file workers) is the recipient of the share called wages. Those who provide capital receive interest. The "residual payment" (whatever is left after the others have received their shares) is the profit going to the owners.

Some people receive money income without having made a direct contribution to the production of goods and services. They are said to receive transfer payments. Such payments (such as welfare payments, unemployment insurance, social security payments, and outright grants of money) are included in such measures as total personal income in the nation, but are not part of the functional distribution of income.

Implications for Business:

A knowledge of the market forces of supply and demand, and of the way in which those forces affect business costs, is essential for the manager and owner. The revenues must be shared with all those who helped to produce the product or service. Sharing of income is often a very controversial matter. This is particularly true of the share going to labor.

Productivity is one of the most important considerations, because this is a powerful element in determining the amount that a factor can be paid. Workers with high productivity (high output per hour) can be paid more than those with low productivity because they add more to the firm's revenues. Productivity also affects the demand for workers. Of course, the more productive workers are in demand, and managers may have to offer them higher wages to attract them away from competing firms.

Supply enters the picture as well. If workers are scarce, wages are apt to rise. A shortage of loanable funds will often cause a rise in interest rates. The quantity of land is fixed, so an increase in the demand for land will bring increases in rent. Increases in any or all of these costs can squeeze the profits and force the manager to seek more efficient ways of operating the firm.

Strategies:

1. List on the board the four factors of production and their shares of the revenue. Define and explain each. Ask the students to give examples of each factor by citing a firm or industry with which they are familiar.

2. Ask students who receive (or who have received) an income to explain the source of that income and to categorize it as wages, rent, interest, or profit. (Do not include transfer payments, such as welfare payments or gifts of money.) Note that a self-employed person may be receiving both profits and wages. If you bake cakes and sell them, part of the money received should be considered wages. The wage portion could be the amount you would get if you were working as a cake-baker for someone else. You would deduct this amount, plus the cost of ingredients, equipment, etc., from your revenues. The amount remaining would be your profit.

3. Invite a local business person to speak to the class about his or her enterprise, and to explain how the four factors of production are used and how each receives a share of the revenues. Have the class discuss the visit in advance and be prepared to ask such questions as: "How do you decide what wage rate to pay your workers?" "How are you affected by changes in interest rates?" "Do you re-invest part of your profits in the business?"

4. Write to a corporation (such as Armstrong World Industries, Box 3001, Lancaster, Pa., 17604) and ask for copies of their annual report. Have the students study the financial statement, identify the various expenditures, and try to categorize the payments as rent, wages, interests, or profit.

5. Students who are thinking of establishing their own businesses can be asked to show how the four factors of production would be used in those enterprises, and how those factors would be paid. To what extent would market conditions determine how much each payment would be? To what extent would the entrepreneur have some discretion in deciding on the amounts to pay? What kinds of changes might occur in the economy or in the market to affect these payments? (Example: A labor shortage might force managers to offer higher wages.)

Concept #8: Profit

Simply defined, profit is the difference between total cost and total revenue. As noted earlier, the manager must consider implicit costs as well as explicit costs. Explicit costs are the obvious out-of-pocket expenses of operating the business -- rental payments, wages and salaries paid to employees, costs of raw materials, costs of electricity and fuel, office expenses, transportation, communication charges, etc. Implicit costs are not so obvious, and may be overlooked by an accountant. If the company owns the land that it occupies, it does not pay rent. The land could be leased to others, however, so the rental value of the land is an implicit cost. If a firm uses some of the profits to buy new equipment instead of borrowing money, it pays no interest. But the money could have been loaned to others, so the market rate of interest is an implicit cost. Economic profit, then, is total revenue (the firm's income) minus both the explicit and implicit costs.

Implications for Business:

Profit is a driving force in the U.S. economy. It is the hope of profit that induces entrepreneurs to risk their time, money, and energies to establish new firms. The hope of higher profit also leads managers to improve efficiency, to develop better products, and to find better ways of serving the consumer. High profits in an industry will lure others into the field. This can increase supply and thus provide more goods and services to consumers. On the other hand, losses ("negative profits") tell the manager that the consumer is not satisfied, that things are not being operated efficiently, or that too many firms are producing the same item and flooding the market.

Strategies:

1. If you did not use Strategy #2 under "Income Distribution" you might want to use it here. It can be carried a step farther, however. In addition to asking students who have produced goods or services to explain how they computed overall profits, ask them to compute profit per unit of output. If a cake was sold for $5.00, how much of that $5.00 was profit? Having determined this, they can also compute profit as a percentage of sales.

2. In addition to Strategy #1 above, or in conjunction with it, teach students the difference between fixed and variable costs. Fixed costs are those that do not change with the level of output. For example, a student borrows money from a bank to buy a power mower to be used in a lawn care business. The payments must be made regardless of how many lawns the student mows. They are fixed costs. Variable costs change with the level of output. Gasoline is an example here, because more gasoline will be used in the mower as more lawns are cut. Have the students describe businesses with which they are familiar and identify the fixed and variable costs. All costs (total costs) must be covered by the revenues before a firm can begin to make profits.

3. A principle that all producers should understand is the law of diminishing returns (also called the law of diminishing marginal productivity). The law states: As more and more units of a varable factor of production, such as labor, are added to a fixed factor of production (such as capital equipment), eventually a point will be reached at which the output accounted for by each additional unit of the variable factor will start to decline. To teach this law, use a variation of the experiment described in Strategy #2 on page 6.

Again state that the class will produce note pads, using a fixed amount of capital items and variable amounts of labor. The capital items will be a ruler, a pair of scissors, a stapler, and a marking pen. Have one student come forward to make the note pads. He or she will use the ruler to divide each sheet of paper into four sections, the scissors to cut the paper into the four parts, the stapler to attach them, and the pen to write "Notes" at the top of the first page. Give the student a certain amount of time to work, and see how many pads are produced. Then ask a second student to come up, adding another unit of labor to your "factory." The first student will now do the measuring and cutting, while the second will do the stapling and writing. Give them the same amount of time as before, and count their output. The output should more than double --not because the second student is any better than the first, but because you are using specialization and bringing about a better mix of labor with your

capital items. Now ask a third "worker" to join your labor force. Further specialization and division of labor will occur, and productivity will increase again. The extra (marginal) output accounted for by the hiring of worker #3 will be greater than the extra output that you obtained after hiring worker #2. You can use a table like the one in the illustration below to keep a record of your output. Bringing a fourth "worker" into your factory will result in still another increase in productivity. Now you will have one worker for each capital item -- just the right mix. Up to this point you are enjoying increasing returns, as each additional worker added more to your total output than the previous worker added.

Should you keep adding workers? Try a fifth worker and see what happens. This person will probably be useful, as he or she can help the others by handing them papers, moving the product from one worker to another, etc. Thus, worker #5 will probably add to your total output as well. However, this worker's marginal product will not be as great as that of worker #4. You are now at the point of diminishing returns. Try adding a 6th worker. If this person can make himself/herself useful, your total output may continue to rise, but it will not be rising as much as before -- your marginal or extra output will now be declining. If you keep adding workers, without adding more capital equipment, you will soon reach a point where your total output will drop also because the last worker will be getting in the way and causing the productivity of the other workers to decline. A table showing the results of one such experiment is as follows:

Number of capital items	Number of workers	Total output	Marginal product
4	1	5	5
4	2	12	7
4	3	22	10
4	4	36	14
4	5	47	11
4	6	50	3
4	7	50	0

Note that the marginal product is the difference between output at one level and output at the next level. For example, worker #3's contribution was 10 more pads -- the difference between 12 pads produced when we had only 2 workers and the 22 pads produced when we had 3 workers. Note, too, that we begin to experience diminishing returns when we hire worker #5. Total output went from 36 to 47, but this is a gain (marginal product) of only 11, as compared with a gain of 14 when we added worker #4.

The wise manager will pay close attention to the marginal product column, as this will help him or her decide when to stop adding variable factors of production. Let's assume that the wage is $5 for each worker, and that the pads are sold for $1 each. Worker number 5 will be retained, because he or she adds $11 (the marginal product of 11 times the price of $1) to the firm's revenues, but only $5 to its costs. Worker #6 will be discharged, because he or she adds only $3 to the firm's revenues, while getting $5 in wages. It should be clear that an understanding of diminishing returns can help the manager to maximize profits or minimize losses.

4. Most people are badly informed about profits in our economy. For example, they often confuse mark-up with profit. A retailer who buys an item for $10 from a manufacturer and sells it for $15 is not making a 50% profit, because that five-dollar mark-up must help pay rent, wages, utility bills, and costs of operating the store. Perhaps the best-known retail stores are super-

Concept #9: Capital Formation

Capital formation is the production of goods that are used to produce other goods and services. Productivity would be very low if workers had nothing to work with but their own hands. Capital goods include everything from a simple hammer to a highly sophisticated robot. By adding to the nation's stock of capital goods, we make it possible to produce more and better goods and services. However, there is an opportunity cost. If our economic resources are fully and efficiently employed, we can produce more capital goods only by reducing our output of consumer goods. For capital formation to occur, someone must be willing to forego consumption so that money (financial capital) can be used for investment in new technology, new factories, additional machinery, etc.

In our economy, most capital is privately produced. Capital items produced by government are called social capital, and include such things as roads, bridges, tunnels, public schools, dams, and port facilities. They add to the nation's infrastructure -- very basic capital facilities without which our plants, factories, and farms could not operate with maximum efficiency. (Without roads and railroads, for example, a factory could not obtain its supplies quickly or ship its products to market easily.)

Over the years, our stock of capital has increased tremendously -- a 600 percent increase between 1900 and 1970, for example. The percentage of our gross national product (GNP, or total national output) accounted for by gross capital formation is called the gross capital formation rate. Thus, if our GNP is $4 trillion, and our expenditures for capital formation total $400 billion, then our gross capital formation rate is 10 percent. Note, however, that we must take into account the fact that some new capital goods are being used to replace old, obsolete, or worn-out capital items. Deducting this depreciation of capital from the gross capital formation figure gives us our net capital formation rate, which is a more significant figure. Net capital formation figures tell us how much new capital is actually available for use. Some economists fear that we are devoting too few of our resources to capital formation, especially when compared to the net capital formation rates of some other industrial nations. It is charged that Americans spend too much on consumer goods and services, and do not save enough to provide the financial capital for investment in new plants, technologies, equipment, and the like. Some believe that this helps to explain why Japan and others have managed to capture markets that were formally dominated by American manufacturers. (In some recent years, the Japanese have saved as much as 17 to 25 percent of their incomes, while Americans have saved as little as 3 percent.) In any event, to have a strong and growing economy, capital formation is vitally necessary.

Implications for Business:

All business managers must make decisions relating to capital investment. Firms that want to grow must decide where and how to raise the needed financial capital. They can retain some (or all) of the profits and use them to finance new plant, modern equipment, improvements in technology, and the like. Or they can borrow the money by getting bank loans or by issuing bonds. If they are corporations they can issue more stock. Adding to the firm's real (physical) capital might give it an advantage over its competitors, because this will add to its productive capacity. On the other hand, it is also possible that excess

capacity will be created, and part of plant and its facilities will lie idle because of lack of demand for the product. Stockholders may complain if they receive small dividend payments because the profits are being "plowed back". Thus there will be a trade-off between long-run and short-run goals. Those who favor the long-run will be willing to sacrifice income today in the hope of greater returns in the future. The policies of Andrew Carnegie illustrate this position. Carnegie built his huge industrial empire by using the profits for capital formation. Many economists fear that today's managers are concentrating too heavily on short-run profits. Some say that this has enabled the Japanese and other industrial nations to push ahead of the United States. Regardless of what may be best for a particular company, the nation as whole will most likely benefit by an increase in capital formation.

Strategies:

1. Have the students work in small groups to study the ways in which particular capital items have affected the American economy. One group might study the effects of computers; another can concentrate on jet aircraft; a third on space satellites, and so on. Try to select items that interest the students. Each group should make a report to the whole class on how our lives and our standard of living have been affected by these capital items.

2. Make a study of the social capital items in your own area. Ask the students to identify and list the various social capital items -- roads, bridges, public power facilities, etc. How do these public capital items relate to private capital? What is the condition of the area's infrastructure? Are roads and other basic facilities in need of repair and improvement? Are additional items required? If so, should they be publicly or privately developed? (You might also use the kit Infrastructure: A Unit for High School Students, This includes a film strip, audio tape, poster, and teacher's guide. It was produced by the Center for Economic Education, University of Kansas, Lawrence, Kansas, 66054. Telephone: 913-864-3103.)

3. Ask each student to study the industry in which he or she hopes to work. What is the role of capital in this industry? Have the students write short reports on their findings and be prepared to discuss them in class.

4. The securities market is an important institution for raising the financial capital needed for capital formation. Have the class study this market and how it affects them personally. Consider using the Stock Market Game and the Joint Council's publication Economics and the Stock Market Game. (Long Island teachers interested in using the game should contact "Newsday in Education," Newsday, L.I., N.Y. 11747, or call 454-2181.) Local stock brokers might be willing to speak to the class about securities and capital formation.

Concept #10: The Role of Government

The extent of government's involvement in the economy is a very controversial issue, although nearly everyone will agree that government does have a role to play. Some want it to do nothing but protect private property. Others want government to guide and direct the economy. Most people fall somewhere between these two extreme positions. Government's roles have included:

protection of property; providing services (police protection, national defense, health care for the poor, etc.); helping to settle labor-management disputes; promoting competition (breaking up monopolies); creating social capital (roads, ports, bridges, etc.); encouraging certain industries (railroads, for example); providing a standard currency; controlling foreign trade; protecting consumers; aiding the poor; helping state and local governments; fighting inflation and recession; stimulating economic growth; regulating the securities markets and certain other businesses; and protecting the environment.

Implications for Business:

The person who is planning to start a business should learn what roles government will play (or might play) in that business. First, it might be necessary to obtain a license or permit from the local government. If the firm is to be incorporated, a charter must be obtained. The owner or manager should learn what government regulations apply to the business, what taxes the firm will have to pay, and what types of assistance (if any) might be available from government. The owner or manager must be aware of the fact that government policies can change, and that these changes can affect the firm. Policy changes that raise or lower taxes, that increase or decrease interest rates, that slow down or stimulate economic growth, or that affect labor-management relations can have profound impacts on the individual firm as well as on business as a whole. Finally, the firm that hopes to sell goods or services to a government just know that government's procurement policies, how to submit bids, and the like.

Strategies:

1. Ask students to list every service they obtain from government -- federal, state, and local. Then have students read from their lists while you write them on the board, categorizing each as being federal, state, or local. (Students sometimes overlook some of the most obvious services, such as the fact that public schools are owned and operated by a government.) Conduct a discussion on how these services affect busiesses and the economy as a whole. You might hold debates on whether some of these services might better be performed by the private sector.

2. Have the students do research on the businesses or professions they plan to enter, noting how they are affected by government. Is a license required? How is the business or profession affected by taxes? What government regulations (if any) apply? Does government at any level assist or suport the industry?

3. Organize a debate on the issue of whether there ought to be more or less government regulation and control over business. Students who are not members of the debate teams should be instructed to rate the performances and evaluate the arguments of the teams, using criteria that have been established and discussed in advance.

4. Use the kit Understanding Taxes to give students a thorough understanding of taxation and how it affects businesses and individuals. The kit contains a video tape with nine programs, computer disks, lesson plans, and other materials. It should be available in your school's library or media center. (If not, contact Agency for Instructional Television, Box A, Bloomington, IN 47402. Telephone: 800-457-4509 or 812-339-2203.)

Concept #11: Economic Tools

Economic tools include the principles, models, and mathematical formulas that economists use to gather information, describe and analyze data, interpret the results, and predict future trends. For example, the gross nation product (GNP) is a measure of the total output of the economy in a given year. It helps us to see whether or economy is growing or declining. The laws of supply and demand help to explain how prices are established in particular markets. Of course, many economic models are less than perfect in describing situations or predicting events. They are like road maps. A road map is not a detailed picture of roads and streets, but it can help you find your destination. They will not show you where the pot holes are or where you will encounter traffic jams. Similarly, an economic model may not be able to tell you exactly what our GNP will be next year, but it can identify general trends and suggest probable developments.

Implications for Business:

Economic tools can help business people to make important decisions. For example, if the GNP is declining it would probably be unwise for a firm that produces luxury items to increase its output, because the demand for such goods is apt to drop during a recession or depression. If the consumer price index (CPI) is rising, what should a consumer finance company do about the interest it charges on loans? It would probably raise the interest rate to protect itself from the decline in the value of the dollar.

Strategies:

1. Introduce students to graphs by having them make simple bar graphs of things that interest them. For example, they might keep track of their grades by making a graph in which the grades (A, B, C, D, F) appear on the horizontal axis and the numbers on the vertical. The vertical bars would show how many As, Bs, Cs, etc., the student has received during the semester. To learn line graphs, a student might keep a record of his or her favorite ball player's batting average, using the vertical axis for the average and the horizontal for the days being recorded. Then have them look for graphs in newspapers and news magazines, stressing those that illustrate economic factors such as trends in rates of unemployment or in prices. (A good reference work to have on hand is Peter Selby's Interpreting Graphs and Tables: John Wiley & Sons, 1976.)

2. Index numbers provide a simple way of showing changes based upon very huge and complex sets of data. Ask each student to select a product or a service that he or she purchases often, such as a candy bar or ice-cream cone. The student must then ask an older person (a grand-parent, if possible) how much this item cost when that person was a youngster. Show the students how to develop a price index based upon the two prices. For instance, a candy bar that cost 10¢ in 1940 might cost 50¢ today. Divide 10¢ (the "base period" price) into the current price of 50¢ and multiply the result by 100. The price index for this item is 500. Then explain that the consumer price index includes several hundred goods and services that typical consumers buy. Ask students to locate the latest CPI and to explain its meaning. (A CPI of 117 in the spring of 1988 means that it would cost you $117 to buy the same "market basket" of goods and services that you could buy for only $100 during the base year of 1982.) How are the students personally affected by the rising CPI? (If their money incomes did

not rise at the same rate, then their real incomes have dropped. They may have more dollars in their pockets, but those dollars will buy fewer goods and services.) Discuss how businesses are affected by changes in the CPI.

3. After students understand the CPI, study some other indexes such as the general price index (also called the GNP deflator, because it covers all goods and services we produce, not just those bought by consumers), the producer price index, and the industrial production index. How do these affect business? For example, a rise in the producer price index means that the costs of producing goods and services are going up. This could squeeze profit margins and force business to increases the prices charged to consumers.

4. After explaining that the GNP is a huge "pie" made up of all the goods and services produced in the U.S. in a year, develop a "GCP" -- gross class product -- made up of all goods and services produced by the students. Ask them to list all the goods and services they have produced during a particular time period and to place a money value on each. (It might be easier to use a month instead of a year.) Do the same with several classes and see which class has the highest "GCP." Discuss ways of increasing their output and ask how an increase in their personal productivity might affect the "GCP." (Note that this "GCP" is part of the actual U.S. GNP, if they have sold their goods & services for money.) You can also have them do research on the U.S. GNP and try to explain how and why it has changed in recent years.

Armed with the tools provided by good economics teaching, students can more effectively assume their roles as consumers, producers and responsible citizens.

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